

## ABSTRACT

This invention relates to a color image dithering method and apparatus for producing an output point in an output color space corresponding to a selected vertex in a tetrahedron of a three-dimensional cubic subinterval of a pixel point in a source color space. The device includes a truncating logic for truncating a value of a pixel having a point in a color space of the source image, for locating a three-dimensional cubic subinterval containing the point; a random number generator for generating a random number as a threshold value for dithering each pixel value of the source image; a first comparator for locating a tetrahedron having four vertices in the three-dimensional cubic subinterval that contains the pixel point; a second logic for assigning a probability density corresponding to each of the vertex; a second comparator for selecting a vertex provided by the threshold value through an inverse probability distribution function derived from the probability densities of said vertices; and a third logic for locating an output point in an output color space corresponding to the selected vertex.